old bone alone. This is probably due to the fact that the nutrient artery is intact. If a section of the whole diameter of a bone be removed then the bone will regenerate between the ends of the fragments if the whole or a part of the periosteum be preserved bridging the defect. If a section of the whole diameter of a bone be removed, very little subsequent filling of this defect by bone will take place if the entire periosteum has been removed from between the ends of the fragments. Provided a graft be living and taken from the same patient its future life depends on an efficient blood-supply, irrespective of the periosteum or whether it is in contact with living bone or not. If minute fragments of a living graft be transplanted then the periosteum may be disregarded because the osteoclasts in the fragments may not die because of an easy access of blood into them, and the pieces may grow and coalesce and not become absorbed. His statistics show that 50 per cent. of such transplantations will be successful. If a larger piece of living bone be transplanted then it is safer to leave the periosteum attached to the graft to assure its future reformation, since otherwise the osteoclasts in the bone of the graft may die because cut off from the nutrient artery. The periosteum survives because of its sufficient blood-supply from the surrounding tissues, its inner surface forms osteoblasts which themselves proceed to reform the bone of the graft, in the event that the osteoblasts within this have died from a deficient blood-supply. His statistics show that 41 per cent. of transplantations are successful in which large grafts without periosteum are grafted. A graft on a graft, neither having a covering periosteum, will not live even though one graft be in contact with living bone. Periosteum when transplanted alone into the soft parts may produce living bone. The splitting of the periosteum of a graft, even though the transplant is entirely surrounded on all sides by periosteum, seems to be unnecessary and accomplishes nothing. Altogether sixteen transplantations with periosteum were performed, and of these all but one (93 per cent.) were successful. Altogether twenty-five transplantations without periosteum were performed. Of these 48 per cent. were successful (all in animals) while 52 per cent. were unsuccessful The influence of the blood-supply is demonstrated by the fact that 50 per cent. of the transplantations without periosteum, made with minute fragments, were successful, while 41 per cent. of those without periosteum made with large, single fragments were successful. From a consideration of all the foregoing facts the conclusion seems irresistable that bone-grafts of whatever size, in order that one should be positively assured of their subsequent living, should be transplanted with as much periosteum covering their surfaces as possible.

Bullet Wounds in War.—Posnett (*Lancet*, 1914, ii, 642) says that he attended close on 1000 rifle bullet wounds, in a large general hospital, during the Boer war, and offers for present use his conclusions drawn from this experience. A clean cut wound of the abdominal viscera will in most cases heal very rapidly and require very little treatment. Multiple abdominal wounds may require operation but are best treated expectantly for a few days until symptoms of some local trouble arise. Bullets may pass through the most vital tissues without doing any permanent injury. There is often great initial shock from bullet wounds, especially, if when shot the soldier was hungry, and tired by marching. The impact of the bullet against the body is very severe. One patient felt as if he "had been hit by a crow bar wielded by a giant," and had been thrown three or four yards out of the saddle. With an empty stomach, a wound of the stomach or intestines seems to close rapidly without any trouble, and so long as there has been no leakage of gastric or intestinal contents the patient will probably recover in a short time, but if leakage takes place symptoms of localized peritonitis may be expected which will require a laparotomy. Wounds of the bladder usually require a suprapubic cystotomy as they do not heal readily and generally leak into the surrounding tissues. A clean wound of the kidney seldom requires any interference, but a wound cutting the ureter across about two inches below the renal pelvis called for a nephrectomy. What may be called local shock is a condition sometimes encountered in wounds of the soft parts, probably, due to the shaking up of the tissues by the great velocity of the bullet. There is a feeling of considerable stiffness in the part for several days and the nerves in the immediate neighborhood although not touched by the bullet, may be more or less neuralgic. It is better, if possible, to wait a few days for this local shock to subside before proceeding to any operation.

A Common Mechanism for Most Injuries of the Shoulder Region.—THOMAS (*Jour. Amer. Med. Assoc.*, 1914, lxiii, 1018) believes that most fractures of the skeleton in the shoulder region, in which he includes dislocations and sprains, are due to hyperabduction. Dislocations and sprains tear the ligaments which are to the skeleton at the joints what the bones are between the joints, and sustain indirect violence as much as the bones. When the normal limit of abduction is passed the whole skeleton in the shoulder region, ligaments and bones, takes the strain, and any break will take place where for the moment the skeleton is weakest or the strain is greatest. It occurs most frequently in the shoulder joint, with or without a dislocation, a tearing of the ligaments without a dislocation constituting a sprain. The degree of force applied determines the extent of the lesion common to both, the tear of the axillary portion of the capsule, which includes all of the ligaments of the joint. With the arm in the sling position the result of healing is the same after a sprain as after the reduction of a dislocation, *i. e.*, a typical stiff and painful shoulder, the etiology of which has been so obscure and the subject of so much discussion. More or less palsy of the upper extremity follows in the great majority of cases, in some being very severe but in most only transitory. If instead of keeping the arm at the side during the healing process the patient, as an athlete, soon carries the arm vigorously into abduction the humeral head is easily pried out of the socket again by the leverage effect of hyperabduction in the absence of the resistance of the normal ligaments. Repetition of this accident occurs more easily, cicatricial contraction in the axilla is prevented, and the capsule heals across the gap between the torn margins necessary to permit the dislocation, and is, therefore, abnormally long. Exercise to stretch the contracted axillary portion of capsule is indicated in stiff and painful shoulders and contraction of the abnormally lengthened capsule, by operation, in recurrent dislocations. Any palsy in the former disappears with the return of normal motion.